



BILLING CODE: 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XG748

Endangered and Threatened Species; Take of Anadromous Fish

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Applications for 10 permit renewals and five new permits.

SUMMARY: Notice is hereby given that NMFS has received 15 scientific research permit application requests relating to Pacific salmon and steelhead, rockfish, eulachon, and green sturgeon. The proposed research is intended to increase knowledge of species listed under the Endangered Species Act (ESA) and to help guide management and conservation efforts. The applications may be viewed online at:

https://apps.nmfs.noaa.gov/preview/preview_open_for_comment.cfm.

DATES: Comments or requests for a public hearing on the applications must be received at the appropriate address or fax number (see **ADDRESSES**) no later than 5 p.m. Pacific standard time on **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Written comments on the applications should be sent to the Protected Resources Division, NMFS, 1201 NE Lloyd Blvd., Suite 1100, Portland, OR 97232-1274. Comments may also be sent via fax to 503-230-5441 or by e-mail to nmfs.wcr-apps@noaa.gov (include the permit number in the subject line of the fax or email).

FOR FURTHER INFORMATION CONTACT: Rob Clapp, Portland, OR (ph.: 503-231-2314), Fax: 503-230-5441, e-mail: *Robert.Clapp@noaa.gov*). Permit application instructions are available from the address above, or online at <https://apps.nmfs.noaa.gov>.

SUPPLEMENTARY INFORMATION:

Species Covered in This Notice

The following listed species are covered in this notice:

Chinook salmon (*Oncorhynchus tshawytscha*): Threatened Lower Columbia River (LCR); threatened Puget Sound (PS); threatened Snake River (SR) spring/summer-run; threatened Snake River (SR) fall-run; endangered Upper Columbia River (UCR) spring-run; threatened Upper Willamette River (UWR); threatened Central Valley (CV) spring-run; endangered Sacramento River (SacR) winter-run; threatened California Coastal (CC).

Steelhead (*O. mykiss*): Threatened LCR; threatened Middle Columbia River (MCR); threatened PS; threatened SR basin; threatened UCR; threatened UWR.

Chum salmon (*O. keta*): Threatened Hood Canal Summer-run (HCS); threatened Columbia River (CR).

Coho salmon (*O. kisutch*): Threatened LCR; threatened Oregon Coast (OC) coho; threatened Southern Oregon/Northern California Coast (SONCC); endangered Central California Coast (CCC).

Sockeye salmon (*O. nerka*): Threatened Ozette Lake (OL); endangered SR.

Eulachon (*Thaleichthys pacificus*): Threatened southern (S).

Green sturgeon (*Acipenser medirostris*): Threatened southern (S).

Rockfish (*Sebastes spp.*): Endangered Puget Sound/Georgia Basin (PS/GB) bocaccio (*Sebastes paucispinis*); threatened PS/GB yelloweye rockfish (*S. ruberrimus*).

Authority

Scientific research permits are issued in accordance with section 10(a)(1)(A) of the ESA (16 U.S.C. 1531 *et seq.*) and regulations governing listed fish and wildlife permits (50 CFR 222-226). NMFS issues permits based on findings that such permits: (1) are applied for in good faith; (2) if granted and exercised, would not operate to the disadvantage of the listed species that are the subject of the permit; and (3) are consistent with the purposes and policy of section 2 of the ESA. The authority to take listed species is subject to conditions set forth in the permits.

Anyone requesting a hearing on an application listed in this notice should set out the specific reasons why a hearing on that application would be appropriate (see *ADDRESSES*). Such hearings are held at the discretion of the Assistant Administrator for Fisheries, NMFS.

Applications Received

Permit 1410-12R

The Northwest Fisheries Science Center (NWFSC) is seeking to renew for five years a research permit that currently allows them to take juvenile and adult CVS, LCR, PS, SacR winter-run, SR fall-run, SR spr/sum, UCR, and UWR Chinook salmon; CR chum salmon; LCR, OC, and SONCC coho salmon; SR sockeye salmon; LCR, MCR, SR, UCR, and UWR steelhead while conducting a study of the Columbia River plume and the surrounding ocean environment off the Oregon and Washington coasts. The NWFSC research may also cause them to take S eulachon, a species for which there are currently no ESA take prohibitions. The purposes of the research are to (1) determine the abundance, distribution, growth, and condition of juvenile Columbia River salmonids in the plume and characterize the area's physical and biological features as they relate to salmonid survival; (2) determine the impact that predators and food supply have on survival among juvenile Columbia River Chinook and coho salmon as they

migrate through the Columbia River estuary and plume; and (3) synthesize the early ocean ecology of juvenile Columbia River salmonids, test mechanisms that control salmonid growth and survival, and produce ecological indices that forecast salmonid survival. The research would benefit the affected species by (1) providing data that would improve understanding of how the ocean and Columbia River plume conditions affect juvenile salmonids, (2) helping predict how changing ocean conditions would affect salmonid growth and survival, and (3) guiding better management actions in relation to river, plume, and ocean conditions for more effective salmon management. This study would work in conjunction with another NWFSC study (permit 22369) by capturing salmonids using a different capture method at deeper locations. The NWFSC proposes to capture fish using a surface trawl which can cause lethal crushing and descaling injuries to juvenile salmonids and eulachon. Juvenile salmonids would be identified to species, measured for length, and frozen for further analysis (*i.e.* weight, growth, genetics, diet (stomach contents), parasites, pathogens, and physiological condition). Adult salmonids would be held in an aerated live well, identified to species, measured for length, checked for tags and marks, and released. Eulachon would either be returned to the capture location or retained for further scientific research activities at NWFSC. The researchers do not intend to kill any listed adult salmonids, but some may die as an inadvertent result of the research.

Permit 1484-7R

The Washington Department of Natural Resources (WDNR) is seeking to renew for five years a permit that currently authorizes them to take juvenile CR chum salmon, LCR Chinook salmon, LCR coho salmon, and LCR and MCR steelhead in WDNR-managed forests in Washington State. The purpose of the study is to survey stream reaches above natural barriers to determine if fish are present. This information is needed to determine appropriate widths of

riparian buffers to leave intact during timber harvest. This study would benefit listed species by documenting the need for increased riparian buffers, which better protect aquatic and riparian habitat where fish are present. In addition, data on the distribution of fish gained from this study would be used to inform land management decisions and better protect listed species.

The WDNR proposes to capture juvenile fish using single-pass backpack electrofishing. The researchers would turn off the electricity as soon as a fish is seen. Fish would be identified with or without netting; if fish are netted they would be held in the water only long enough to identify them and then released at the site of capture. The WDNR does not intend to kill any of the fish being captured, but a small number may die as an unintended consequence of the proposed activities.

Permit 1523-4R

The National Council of Air and Stream Improvements (NCASI) is seeking to renew for five years a permit that currently authorizes them to take juvenile and adult UWR Chinook salmon in the McKenzie and Willamette rivers (Oregon). The purpose of the study is to describe how water quality and biological communities, including periphyton, macroinvertebrates, and resident fish, change as a result of exposure to paper and pulp mill discharges. The research would benefit listed species by describing the relative effects of anthropogenic versus natural stressors on the aquatic ecosystems in which listed species occur. The Oregon Plan, a guidance document for recovering endangered and threatened salmonids in Oregon, states that such comparative analyses are key elements needed to document existing conditions, track changes, and determine the impact of programs and actions.

The NCASI proposes to capture non-listed, resident fish in river edge habitat that is less than 2 m deep using a backpack or boat electrofisher. At each site the researchers would electrofish in a downstream direction for approximately 11 to 17 minutes, capture fish in nets, and place them in an aerated live well. If listed fish are observed, the researchers would turn off electricity immediately and count the fish, but not net them. If any listed fish are inadvertently netted, they would be released immediately. The NCASI would conduct surveys during spring and fall and would coordinate with the Oregon Department of Fish and Wildlife to avoid periods when salmon and steelhead are migrating in survey reaches. The researchers would discontinue sampling at a site on any date that a listed species is observed. While most of the fish would be unharmed, a small number of juvenile UWR Chinook may die as an unintended consequence of the proposed activities.

Permit 14046-4R

The King County Department of Natural Resources and Parks (KCDNRP) is seeking to renew for five years a research permit that currently allows them to take juvenile PS Chinook salmon and PS steelhead. Sampling sites would be in four Puget Sound (Washington) sub-basins—Snoqualmie, Lake Washington, Duwamish, and Puyallup—and intertidal nearshore areas in the Puget Sound (King County, Washington). The purposes of the study are to (1) evaluate the effectiveness of restoration actions through biological monitoring, (2) understand how juvenile salmonids use specific riverine habitats in order to prioritize restoration projects and guide project design, (3) assess salmonid habitat status and trends in small streams with varying degrees of land use while monitoring current stream conditions, and (4) assess contaminant levels in various freshwater fish. The research would benefit the affected species by determining how restoration and recovery actions are contributing to listed species recovery,

providing information on the extent of juvenile salmonid rearing in off-channel areas, guiding future restoration projects based upon monitoring results, providing information on habitat use by yearling fall-run Chinook salmon, and contributing to our knowledge of Chinook salmon life histories. The KCDNRP proposes to capture fish using beach seines, fyke nets, gill nets, hook and line, minnow traps, and backpack and boat-operated electrofishing. Most of the captured fish would be anaesthetized, identified to species, allowed to recover, and released. A subset of the Chinook salmon would also be tagged (acoustic, PIT, and elastomer), dyed (Bismark Brown), gastric lavaged, and have scales collected. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 15207-4R

The Amnis Opes Institute (AOI) is seeking to renew for five years a research permit that currently allows them to take juvenile and adult LCR, PS, SR fall-run, SR spr/sum, UCR, and UWR Chinook salmon; CR and HCS chum salmon; LCR, OC, and SONCC coho salmon; SR sockeye salmon; LCR, MCR, PS, SR, UCR, and UWR steelhead throughout Idaho, Oregon, and Washington States. The purpose of the study is to develop baseline data of the physical and chemical habitat for rivers and streams throughout the United States. Research transects would be randomly determined and would take place on alternating sides of the sampled rivers and streams for a distance of 40 times the mean wetted channel width. The researchers would stop every five channel widths to process the fish. This research would benefit the affected species by characterizing the biological condition of rivers and thereby provide data that supports Clean Water Act implementation. The AOI proposes to capture fish using raft-mounted and backpack electrofishing equipment; stunned fish would be placed in a live well with a soft mesh dip-net. Fish would be identified to species, measured to length, searched for abnormalities, and returned

to the water when recovered. ESA-listed species would be processed and released first. If adult salmonids are observed, electrofishing activities would immediately cease and the researchers would move to another location before resuming electrofishing activities. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 16329-3R

The Oregon Department of Environmental Quality (DEQ) is seeking to renew a permit that currently authorizes them take juvenile and adult CR chum salmon; LCR, UWR, UCR spring-run, SR fall-run, and SR spring/summer-run Chinook salmon; LCR, OC, and SONCC coho salmon; and LCR, UWR, MCR, UCR, and SR Basin steelhead in all Oregon State waters. The purpose of the research is to assess environmental impairment from pollutants and describe the effectiveness of management activities in protecting and restoring aquatic ecosystems. The scientific research permit would authorize take of listed species for four DEQ programs: (1) Biomonitoring Program, (2) Oregon Toxics Monitoring Program, (3) Mixing Zone Surveys, and (4) Spill Impact and Cleanup Effectiveness Evaluations. Together, these programs are used to assess watershed and aquatic community health, determine the presence and effects of contaminants, and gauge the effectiveness of waste treatment and spill cleanup procedures. The information gathered would help the DEQ fulfill its mission to assess, restore, enhance, and maintain the quality of Oregon's waters, as directed by state and Federal laws. The research would benefit listed species by providing information on watershed health and contaminants—information that would be used to inform efforts to protect and restore salmonid habitat.

The DEQ proposes to capture fish from spring through fall using backpack and boat electrofishing, seining, and angling. After capturing the fish, the researchers would quickly transfer them to buckets of aerated water, weigh and measure some of them, and release them

near the site of their capture within 20 minutes. No drugs or anesthesia would be used. The researchers propose to intentionally kill small numbers of non-listed, resident fish. The researchers would not intentionally kill any ESA-listed fish, but a small number may die as an unintended result of the research activities.

Permit 18260-2R

The Confederated Tribes of Warm Springs (CTWS) is seeking to renew for five years a permit that currently authorizes them to take juvenile and adult LCR Chinook salmon, LCR coho salmon, and LCR and MCR steelhead. The purpose of the study is to describe abundance, habitat associations, spawning, distribution, migration patterns, harvest rates, and limiting factors for Pacific lamprey in Fifteen Mile Creek and Hood River and their tributaries (Oregon). The research would provide important basic ecological information about Pacific lamprey, which is not ESA-listed, but which is an important indicator species for characterizing watershed health. Although researchers are targeting juvenile and adult Pacific lamprey for capture, other species may be taken during sampling activities. The research would benefit listed species by improving understanding of watershed condition and helping managers prioritize habitat restoration projects in the Fifteen Mile Creek and Hood River basins.

The CTWS proposes to collect fish from March through October using backpack electrofishing and hand, dip, fyke, and hoop nets. During electrofishing surveys, the researchers would use “lamprey settings” (*i.e.*, very low voltage). The researchers would set hoop (0.8 m diameter with 1.9 cm mesh) and fyke (2.5 m high by 2.75 m wide with 1.9 cm mesh size) nets facing downstream in low velocity areas. They will modify the fyke net to deter adult steelhead from entering the hoop net by tying twine across the first throat of the net to create an effective mesh size across the opening of 7.5 cm. This modification has effectively deterred steelhead

from entering fyke nets set in previous fieldwork. The researchers propose to measure and PIT or radio tag adult lamprey before releasing them. The researchers would immediately release any salmonids that are captured or briefly hold them in buckets of water before releasing them if they require time to recover from being captured. If salmonids are observed during electrofishing, the researchers would immediately turn off the electricity and allow fish to swim away. The CTWS does not propose to kill any fish, but a small number may die as an unintended result of the research activities.

Permit 18331-2R

The Wild Fish Conservancy (WFC) is seeking to renew for five years a research permit that currently allows them to take juvenile PS Chinook salmon and PS steelhead in selected stream channels and floodplain areas throughout the Kitsap and Snoqualmie sub-basins of Washington State. The purpose of the study is to classify existing channels by water type and thereby validate and update county, city, and Washington Department of Natural Resources stream classifications and hydrological maps. This research would benefit the affected species by filling data gaps regarding fish passage impediments (tidegates, culverts, etc.) and providing fish species composition and distribution—information needed to identify, prioritize, and implement restoration projects. The WFC proposes to capture fish using backpack electrofishing. Fish would be identified to species, tissue sampled (caudal fin clip - steelhead only), and released. Once fish presence is established, either through visual observation or electrofishing, electrofishing would be discontinued. Surveyors would then proceed upstream until a change in habitat parameters is encountered and electrofishing would recommence. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 20047-2R

The University of Washington (UW) is seeking to renew for five years a research permit that currently allows them to take juvenile PS Chinook salmon, PS steelhead, HCS chum salmon, and PS/GB bocaccio throughout the Puget Sound, Hood Canal, and Willapa Bay (Washington State). The UW research may also cause them to take adult S eulachon and juvenile PS/GB yelloweye rockfish—species for which there are currently no ESA take prohibitions. The purpose of the study is to directly compare fish communities in seagrass-vegetated habitats and unvegetated tideflats at five intertidal sites where native eelgrass is found naturally interspersed with bare areas. The research would benefit the affected species by evaluating their response to eelgrass habitats on Washington state tideflats and thus help inform planning decisions regarding preserving, restoring, and monitoring selected aquatic sites. The UW researchers propose to capture fish using a beach seine. Captured fish would be identified to species, counted, measured to length (first 10 individuals of each species), and released. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 20104-2R

The Pacific Shellfish Institute (PSI) is seeking to renew for five years a research permit that currently allows them to take juvenile PS Chinook salmon, PS steelhead, and subadult S green sturgeon in Samish Bay (Whatcom/Skagit counties, WA) and Willapa Bay (Pacific County, WA). The PSI research may also cause them to take juvenile S eulachon—a species for which there are currently no ESA take prohibitions. The purposes of the study are to (1) measure and quantify the effect of shellfish culture and burrowing shrimp on seagrass and its function as habitat for fish and invertebrates; (2) determine the distribution of, and spatial relationship between, existing shellfish culture, burrowing shrimp, and seagrass in several Pacific Northwest estuaries; and (3) synthesize data and parameterize production functions for higher trophic level

species of interest (*i.e.*, English sole, crab, salmon) across habitat types. The research would benefit the affected species by (1) increasing knowledge at a landscape scale regarding the influence aquaculture may have on estuarine habitats and (2) improving environmentally and economically sustainable shellfish farming practices that minimize impacts on listed species. The PSI proposes to observe/harass fish using modified fyke net/camera deployments and capture fish using Breder traps. The modified fyke net/camera deployments would be left open-ended with four wings (hourglass shape) with two cameras to identify species; no fish would be handled. For the Breder traps, fish would be identified to species, counted, measured, and released. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 22003

The KCDNRP is seeking a five-year research permit that would allow them to annually take juvenile and adult PS Chinook salmon, PS steelhead, and PS/GB bocaccio and adult S green sturgeon in the marine waters and shorelines of King County (Washington state). The KCDNRP research may also cause them to take juvenile and adult S eulachon and PS/GB yelloweye rockfish—species for which there are currently no ESA take prohibitions. The purpose of the study is to capture English sole (*Parophrys vetulus*), brown rockfish (*Sebastes auriculatus*), copper rockfish (*Sebastes caurinus*), quillback rockfish (*Sebastes maliger*), and various forage fish to monitor tissue levels of toxic chemical contaminants. This research would benefit the affected species by (1) understanding the types and concentrations of chemicals in fish, (2) understanding the impact chemical exposures have on marine fish health, (3) filling data gaps to help managers make informed management decisions, and (4) developing a long-term program to evaluate changes in chemical body burdens in fish over time as environmental improvements

are made (stormwater discharges reduced, contaminated sediments remediated, etc.). The KCDNRP proposes to capture fish using bottom trawls, beach seines, cast nets, and hook and line (sabiki rigs). Captured ESA-listed fish would be identified to species and released. Listed rockfish would be released via rapid submergence to their capture depth to reduce adverse effects from barotrauma. Targeted species (and incidental mortalities) would be sacrificed, stored on ice, and analyzed for contaminants. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 22152

The Merrill & Ring (MR) timberland company is seeking a five-year research permit that would allow them to annually take juvenile OL sockeye salmon in the Lake Ozette watershed (Clallam County, WA). The purpose of the study is to determine potential fish presence downstream of potential road-related barriers in order to document potential natural barriers, other physical characteristics, and fish presence/absence. This research would benefit the affected species by correctly typing streams, applying appropriate forest buffers to streams, and identifying potential fish barriers to replace with fish-passable culverts. The researchers propose to capture fish using backpack electrofishing equipment. Captured fish would be identified to species and released. In most cases, the stream survey would terminate when one fish is located. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 22369

The NWFSC is seeking a five-year research permit that would allow them to annually take adult S green sturgeon and juvenile and adult CC, CVS, LCR, PS, SacR winter-run, SR fall-run, SR spr/sum, and UCR Chinook salmon; CR and HCS chum salmon; CCC, LCR, OC, and

SONCC coho salmon; OL and SR sockeye salmon; and LCR, MCR, PS, SR, and UCR steelhead while conducting a study in the Columbia River plume and surrounding ocean environment off of the Oregon and Washington coasts. The NWFSC research may also cause them to take S eulachon, a species for which there are currently no ESA take prohibitions. The purposes of the study are to (1) determine the ocean distribution and behaviors of smolt and sub-adult salmonids including Chinook and coho salmon and steelhead; (2) understand the degree to which fish from different origins use near-shore habitats; (3) synthesize the early ocean ecology of juvenile Columbia River salmon, test mechanisms that control salmonid growth and survival, and produce ecological indices that forecast juvenile salmonid survival; and (4) use simulation models, statistical analyses of climate, ocean and biological time series data, and indices to produce improved river and salmon management. The research would benefit the affected species by improving knowledge of salmonid spatial distribution and behavior during the marine portion of their life cycle. This study would work in conjunction with another NWFSC study (permit 1410-12R) by capturing salmonids using different capture methods at shallower locations and by tracking salmonids through acoustic and satellite tags. The NWFSC proposes to capture fish using microtrolling, purse seines, beach seines, and Kodiak trawls. Non-target species (eulachon and green sturgeon) would be handled with a knotless rubber net, identified to species, and released. All salmonid adults and a subset of the juveniles would be placed in an aerated holding tank, identified to species, measured for length, and anesthetized using AQUI-S. Once anesthetized, the fish would be weighed, fin clipped, sampled for scales, and have either an acoustic tag surgically implanted or satellite pop-up tag attached via a dorsal muscle tether. The remaining juvenile salmonids would be held in an aerated holding tank, identified to species, and euthanized using an overdose of AQUI-S. Blood samples would be taken, and the fish would be

frozen for further analysis (e.g., diet, caudal fin clip for genetics, otoliths removed, scales taken, and dorsal muscle sample for stable isotopes).

Permit 22417

The Puyallup Tribe of Indians (PTI) is seeking a five-year permit that would allow them to annually take juvenile PS Chinook salmon and PS steelhead in the Puyallup and White rivers (Pierce County, WA). The PTI research may also cause them to take adult S eulachon, a species for which there are currently no ESA take prohibitions. The purpose of the study is to estimate abundance, collect biometric and run timing data, and aide in productivity analyses of ESA-listed salmonids. The research would benefit the affected species by evaluating trends and statuses of individual populations that are critical for monitoring species recovery and evaluating the success of current and future habitat recovery in the watersheds. The PTI proposes to use rotary screw traps in the Puyallup and White rivers (one in each river) to capture fish. Captured fish would be anesthetized with MS-222, measured for length, tissue sampled (scales and anal fin clip), PIT-tagged, and released after recovery. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 22482

The NWFSC is seeking a new, five-year permit that would allow them to take juvenile LCR, SR fall-run, UCR spring-run, and UWR Chinook salmon; CR chum salmon; LCR coho salmon; SR sockeye salmon; and LCR, MCR, SR Basin, UCR, and UWR steelhead. The purpose of the study is to measure contaminant levels in resident sculpin in the lower Willamette River (Oregon) near a Superfund site with high levels of pollutants. The target species for sampling, prickly sculpin, is benthic-feeding and has a small home range, thus contaminant analysis of its tissues reflects environmental conditions at a localized area. Listed salmonids could be

unintentionally captured during sampling activities. The study results would support an ongoing Natural Resource Damage Assessment, the purpose of which is to document and quantify injuries to natural resources resulting from exposure to hazardous substances. The proposed research study would benefit listed species that occur in the project area by improving understanding of the extent of contamination and informing habitat restoration activities.

The researchers propose to collect fish between river miles 2 and 11 of the Willamette River, and at appropriate reference sites nearby in the Lower Willamette River. The researchers would conduct sampling from August through October. The researchers would use vinyl-coated wire shrimp traps with 1.0 cm x 0.5 cm openings and baited with canned meat and bait scent. Any listed salmonids that are unintentionally captured would be transferred to buckets of aerated water, identified, counted, checked for fin clips, passive integrated transponder, and coded wire tags, and then gently released near the site of capture.

This notice is provided pursuant to section 10(c) of the ESA. NMFS will evaluate the applications, associated documents, and comments submitted to determine whether the applications meet the requirements of section 10(a) of the ESA and Federal regulations. The final permit decisions will not be made until after the end of the 30-day comment period. NMFS will publish notice of its final action in the **Federal Register**.

Dated: February 12, 2019.

Catherine G. Marzin,

Deputy Director,

Office of Protected Resources,

National Marine Fisheries Service.

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